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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/641,149	08/17/2000	Mark Gary Weinberg	CL1375 US NA CIP	4732

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E I DU PONT DE NEMOURS AND COMPANY
LEGAL PATENT RECORDS CENTER
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WILMINGTON, DE 19805

EXAMINER

SHOSHO, CALLIE E

ART UNIT	PAPER NUMBER
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1714

DATE MAILED: 11/12/2002

13

Please find below and/or attached an Office communication concerning this application or proceeding.

72-13

Office Action Summary

Application No. 09/641,149		Applicant(s) WEINBERG ET AL.	
Examiner Callie E. Shosho		Art Unit 1714	

-- **Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --**
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 September 2002.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-15 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/3/02 has been entered.

2. All outstanding rejections except for those described below are overcome by applicants' amendment filed 9/3/02.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C.

122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claims 1-7, 9-10, and 14-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Lundgard (U.S. 6,174,427).

Lundgard discloses molding composition comprising saturated polyester, which clearly encompasses polyalkylene terephthalate, 20-60 wt.% calcium carbonate which has aspect ratio less than 5 and particle size of 0.01-50 μm , and zinc stearate (col.2, lines 26-31, col.3, lines 11-12 and 19-21, and col.6, lines –23). From example 1, it is calculated that the amount of zinc stearate utilized is, for instance, approximately 3.3% based on the amount of calcium carbonate (14.4/441.3)

Col.3, lines 61-65 of Lundgard disclose that the composition comprises 30-70 vol.% calcium carbonate and glass fiber combined. Thus, it is clear that the amount of calcium carbonate alone would include amounts less than 30 vol.% and thus fall within the range presently claimed.

In light of the above, it is clear that Lundgard anticipates the present claims.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
6. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lundgard (U.S. 6,174,427).

The disclosure with respect to Lundgard in paragraph 4 above is incorporated here by reference.

The difference between Lundgard and the present claimed invention is the requirement in the claims of the amount of zinc stearate.

From the examples of Lundgard, it is calculated that the zinc stearate is present in an amount of approximately 3.3%. This is the only disclosure regarding the amount of zinc stearate used. However, these are only a few preferred embodiments of Lundgard. A fair reading of the reference as a whole, discloses that there is no limitation regarding the amount of mold release agent, i.e. zinc stearate, used.

It therefore would have been obvious to one of ordinary skill in the art to choose amounts of zinc stearate, including that presently claimed, in order that the molding composition is easily removed from the mold, and thereby arrive at the claimed invention.

7. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lundgard (U.S. 6,174,427) in view of EP 639613.

The disclosure with respect to Lundgard in paragraph 4 above is incorporated here by reference.

The difference between Lundgard and the present claimed invention is the requirement in the claims of specific type of engineering polymer.

EP 639613, which is drawn to mineral filled molding composition, discloses the equivalence and interchangeability of polybutylene terephthalate as disclosed by Lundgard with polyamide such as nylon 6, or nylon 6,6 as presently claimed in order to produce molded article with improved surface and impact strength (col.2, lines 1-14 and col.2, line 58-col.3, line 1).

In light of the above, it therefore would have been obvious to one of ordinary skill in the art to use polyamide as the polymer in Lundgard, and thereby arrive at the claimed invention.

8. Claims 1-10 and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Noguchi et al. (U.S. 5,281,379) in view of Moss (U.S. 4,698,372) and Sekutowski (U.S. 4,740,538).

Noguchi et al. disclose composition comprising polymer including polyethylene terephthalate, polybutylene terephthalate, and polyamide such as nylon 6 and nylon 66, 5-40 vol% filler such as calcium carbonate that has particle size less than 1 μm , and saturated organic acid such as stearic acid. It is further disclosed that the composition is used to form shaped

articles (col.2, lines 46-51, 56-59, and 65-66, col.3, lines 8-13, col.6, lines 34-41, and col.13, lines 46-47).

The difference between Noguchi et al. and the present claimed invention is the requirement in the claims of (a) aspect ratio of calcium carbonate filler and (b) amount of stearic acid.

With respect to difference (a), Moss, which is drawn to resin composition, disclose use of calcium carbonate filler with aspect ratio less than 2 in order to impart suitable reinforcing effects to the composition (col. 5, lines 21-23).

With respect to difference (b), Sekutowski, which is drawn to polyamide or polyester composition, disclose use of 0.1-5 wt%, based on amount of calcium carbonate filler, of saturated organic acid such as stearic acid in order to increase the impact strength of the composition (col.2, line 67-col.3, line 1, col.6, line 63-col.7, line 7, and col.7, line 14).

In light of the motivation for using calcium carbonate with specific aspect ratio and specific amount of stearic acid disclosed by Moss and Sekutowski respectively as described above, it therefore would have been obvious to one of ordinary skill in the art to use such calcium carbonate and stearic acid in the composition of Noguchi et al. in order to produce a composition with good reinforcement properties and increased impact strength, and thereby arrive at the claimed invention.

9. Claims 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Noguchi et al. in view of Moss and Sekutowski as applied to claims 1-10 and 13-15 above, and further in view of Imahashi (U.S. 6,043,306).

The difference between Noguchi et al. in view of Moss and Sekutowski and the present claimed invention is the requirement in the claims of specific type of engineering polymer.

Imahashi et al., which is drawn to composition comprising thermoplastic engineering polymer and mineral filler treated with organic acid used to make molded articles, disclose the equivalence and interchangeability of polybutylene terephthalate as disclosed by Noguchi et al. with polyacetal as presently claimed (col.4, lines 1-2 and 11-12).

In light of the above, it therefore would have been obvious to one of ordinary skill in the art to use polyacetal as the polymer in Noguchi et al., and thereby arrive at the claimed invention.

10. Claims 1-8, 10, and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Charles et al. (U.S. 4,157,325) in view of Wallace (U.S. 5,509,099).

Charles et al. disclose molding composition comprising polybutylene terephthalate, 1-40% filler which has aspect ratio less than 3 and particle diameter of 0.2-20 μm and includes mineral filler such as clay, silica, and alumina, and no more than 5% lubricant (col.1, lines 35-39 and 45-49, col.2, lines 4-8, col.3, lines 21-34 and 63-66). Given that the lubricant comprises no more than 5% of the total composition and that the composition comprises 1-40% mineral filler, it is calculated that the amount of lubricant present based on the amount of mineral filler is no more than 2%.

The difference between Charles et al. and the present claimed invention is the requirement in the claims of (a) organic acid and (b) volume % of filler.

With respect to difference (a), Wallace, which is drawn to molding composition, discloses the use of 0.01-5% lubricant including C₁₂-C₆₀ fatty acids which function as mold release agents (col.2, lines 53-59).

In light of the motivation for using fatty acid disclosed by Wallace as described above, it therefore would have been obvious to one of ordinary skill in the art to use such fatty acid as the lubricant in Charles et al. to function as a mold release agent, and thereby arrive at the claimed invention.

With respect to difference (b), Charles et al. disclose the amount of mineral filler present in the composition in wt.% not vol.% as presently claimed.

However, given that broad range of mineral filler disclosed by Charles et al., i.e. 10-40%, it would have been natural for one of ordinary skill in the art to infer, absent evidence to the contrary, that this broad amount of mineral filler in weight % would overlap the presently claimed amount in volume %, and thus, one of ordinary skill in the art would have arrived at the claimed invention.

11. Claims 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Charles et al. in view of Wallace as applied to claims 1-8, 10, and 14-15 above, and further in view of Imahashi (U.S. 6,043,306).

The difference between Charles et al. in view of Wallace and the present claimed invention is the requirement in the claims of specific type of engineering polymer.

Imahashi et al., which is drawn to composition comprising thermoplastic engineering polymer and mineral filler treated with organic acid used to make molded articles, disclose the

equivalence and interchangeability of polybutylene terephthalate as disclosed by Charles et al. with polyacetal as presently claimed (col.4, lines 1-2 and 11-12).

In light of the above, it therefore would have been obvious to one of ordinary skill in the art to use polyacetal as the polymer in Charles et al., and thereby arrive at the claimed invention.

12. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Charles et al. in view of Wallace as applied to claims 1-8, 10, and 14-15 above, and further in view of EP 639613.

The difference between Charles et al. in view of Wallace and the present claimed invention is the requirement in the claims of specific type of engineering polymer.

EP 639613, which is drawn to mineral filled molding composition, discloses the equivalence and interchangeability of polybutylene terephthalate as disclosed by Charles et al. with polyamide such as nylon 6, or nylon 6,6 as presently claimed in order to produce molded article with improved surface and impact strength (col.2, lines 1-14 and col.2, line 58-col.3, line 1).

In light of the above, it therefore would have been obvious to one of ordinary skill in the art to use polyamide as the polymer in Charles et al., and thereby arrive at the claimed invention.

Response to Arguments

13. Applicants' arguments filed 9/3/02 have been fully considered, but they are not persuasive.

Specifically applicants argue that:

- (a) there is no motivation to combine Noguchi et al. with either Moss or Sekutowski.
- (b) Moss teaches using filler with aspect ratio less than 2 given that such filler does not provide reinforcing effects while in the present invention reinforcing effects are desirable.
- (c) Moss discloses the use of different polymers than presently claimed.

With respect to difference (a), applicants argue that there is motivation to combine Noguchi et al. with either Moss et al. or Sekutowski given that Moss and Sekutowski are non-analogous art.

However, it is the examiner's position that there is proper motivation to combine the references.

Noguchi et al. disclose composition used to make films wherein the composition comprises calcium carbonate, however, there is no disclosure of the aspect ratio of the calcium carbonate. This is why Noguchi et al. is used in combination with Moss, which is also drawn to composition used to make films, which teaches the use of mineral filler such as calcium carbonate which has aspect ratio of less than 2 in order to produce a film with increased toughness but decreased stiffness. Given that both Noguchi et al. and Moss are drawn to the same field of endeavor and both disclose using calcium carbonate and further given that Moss discloses that using calcium carbonate with specific aspect ratio will produce film with increased toughness but decreased stiffness, it is the examiner's position that Moss is not non-analogous art and further that there is proper motivation to combine the references.

With respect to Sekutowski, it is noted that not only is Noguchi et al. drawn to composition suitable for making films but also for making molded articles. Sekutowski is also

drawn to composition for making molded articles wherein the composition comprises thermoplastic polymer, mineral filler, and organic acid as does the composition of Noguchi et al. Further, Sekutowski discloses that using organic acid in certain increases the impact strength of the composition. Thus, it is the examiner's position that Sekutowski is not non-analogous art and further that there is proper motivation to combine the references.

With respect to argument (b), while the motivation for using mineral filler with low aspect ratio disclosed by Moss may not be the same motivation as in the present invention, it is noted that obviousness under 103 is not negated because the motivation to arrive at the claimed invention as disclosed by the prior art does not agree with appellant's motivation. *In re Dillon*, 16 USPQ2d 1897 (Fed. Cir. 1990), *In re Tomlinson*, 150 USPQ 623 (CCPA 1996).

With respect to difference (c), note that while Moss does not disclose all the features of the present claimed invention, Moss is used as teaching reference, and therefore, it is not necessary for this secondary reference to contain all the features of the presently claimed invention, *In re Nievelt*, 482 F.2d 965, 179 USPQ 224, 226 (CCPA 1973), *In re Keller* 624 F.2d 413, 208 USPQ 871, 881 (CCPA 1981). Rather this reference teaches a certain concept, namely aspect ratio of calcium carbonate, and in combination with the primary reference, discloses the presently claimed invention.

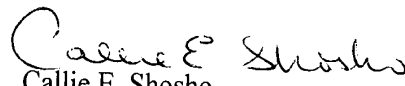
14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Semen et al. (U.S. 4,483,949) disclose thermoplastic composition comprising polybutylene terephthalate, mineral filler having aspect ratio of, for instance, 1.2 and salt of organic acid. However, there is no disclosure of the equivalent spherical diameter of the mineral filler and no disclosure of the amount of filler present in vol.% as required in the present claims.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie E. Shosho whose telephone number is 703-305-0208. The examiner can normally be reached on Monday-Friday (6:30-4:00) Alternate Fridays Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 703-306-2777. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.


Callie E. Shosho
Examiner
Art Unit 1714

CS
November 8, 2002